
University of Sunderland

Role Profile

Part 1

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**University of
Sunderland**

Software Engineer (KTP Associate)

Job Title:	Software Engineer (KTP Associate)
Reference No:	
Reports to:	Project Leads, University of Sunderland Managing Director, Unified Software Ltd.
Responsible For:	Knowledge Transfer Partnerships (KTP)
Working Hours:	37.5 per week (Knowledge Transfer Partnership, fixed term for 24 months)
Faculty/Service:	Faculty of Computing
Location:	Between Unified Software Ltd, and the University of Sunderland.
Main Purpose of Role:	To work closely between the University and Unified Software Managing Directors in order to understand current processes and to optimise transition to a new business model. You will develop an Anomalous Financial Transaction Detection System applying intelligent data mining techniques that will confer Unified Software with the ability to create cutting-edge Know-Your-Customer (KYC) fraud detection services within the financial validation industry.

Key Responsibilities and Accountabilities:

In line with the University's Mission, Corporate Strategy and Leadership Attributes, you will:

- Develop a full understanding of the strategic aims and function of the KTP project, the company and University.
- Research and acquire financial sector knowledge and awareness.
- Carry out project management, embed knowledge to the company, and produce documentation
- Disseminate the outputs at appropriate venues.
- Feedback to the project team and deliver the project in accordance with the project plan and management requirements.

Specific Duties and Responsibilities:

- Investigate Current Data Science and Big Data Mining / Manipulation Techniques which could be applied to create the desired Unified 'know your customer' fraud detection product.
- To present a state of the art report on Data Analytics and Data Mining Techniques for Purposes of Financial Fraud Detection.
- Identify techniques and technologies with high potential to facilitate

	<p>knowledge discovery.</p> <ul style="list-style-type: none">• To create and develop the Ensemble Architecture and Commercially Viable KYC–Start Version 2 Prototype.• To evaluate performance of the new method by identifying and implementing an effective testing strategy and key performance indicators.• To write and present high quality reports and journal/conference papers for publication and dissemination.• To create prototypes to handle static, streaming data on traditional and big data systems.• To effectively communicate with project stakeholders and embedding the knowledge into Unified Software Ltd.• To prepare commercialisation plans to achieve project aim and objectives.
Special Circumstances:	<p>This role will work between the University of Sunderland and Unified Software. You will be based within Unified Software at Evolve Business Centre, Houghton-le-Spring</p>

University of Sunderland

Role Profile

Part 2

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**University of
Sunderland**

Part 2A: Essential and Desirable Criteria

Essential

Qualifications and Professional Memberships:

- Honours degree (1st or 2:1) in a numerate, computer science discipline, ideally with significant modules on data science and AI as part of the course.
- Understanding of data mining (ideally with experience of big data systems and static streaming data), with skills in interrogating and manipulating data sets.
- Demonstrable skills in intelligent software design, development and testing, and coding skills in languages such as Java, Python, etc.
- Awareness and use of Big data systems and their development (e.g. hadoop, mongo database) including use of data mining methodologies such as Crisp-DM.
- Transferable skills including problem identification and solution; team and group working; communication - oral, written and visual; project and time management; and commercial awareness.
- Good review skills, able to review literature, on-line media and technology, including the identification, use and incorporation of algorithms.
- Self motivated, organised and focused, able to cope with challenging technical problems and to determine and implement a solution.

Knowledge and Experience:

- Understanding and practical experience of AI software and development.
- Engagement in projects with others, working in teams to create services and software products.

Desirable

Qualifications and Professional Memberships:

- Creative and innovative, able to identify novel ways of applying intelligent data mining approaches and to communicate these, implement and evaluate.
- An interest in anti-fraud system and in business analytics

	Knowledge and Experience: <ul style="list-style-type: none">• Experience of Intelligent Systems and Big Data Analytics and of applying intelligent techniques and approaches for software development.
Date Completed:	March 2017